U.S. FISH AND WILDLIFE SERVICE
SPECIES ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: Symphyotrichum georgianum

COMMON NAME: Georgia aster

LEAD REGION: 4

INFORMATION CURRENT AS OF: October 2005

STATUS/ACTION

___ Species assessment - determined species did not meet the definition of endangered or threatened under the Act and, therefore, was not elevated to Candidate status

___ New candidate

_X_ Continuing candidate

___ Non-petitioned

_X_ Petitioned - Date petition received: May 11, 2004

_ 90-day positive - FR date:

_ 12-month warranted but precluded - FR date:

_ Did the petition request a reclassification of a listed species?

FOR PETITIONED CANDIDATE SPECIES:

a. Is listing warranted (if yes, see summary of threats below)? yes

b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? yes

c. If the answer to a. and b. is "yes", provide an explanation of why the action is precluded. We find that the immediate issuance of a proposed rule and timely promulgation of a final rule for this species has been, for the preceding 12 months, and continues to be, precluded by higher priority listing actions (including candidate species with lower LPNs). During the past 12 months, almost our entire national listing budget has been consumed by work on various listing actions to comply with court orders and court-approved settlement agreements, meeting statutory deadlines for petition findings or listing determinations, emergency listing evaluations and determinations, and essential litigation-related, administrative, and program management tasks. We will continue to monitor the status of this species as new information becomes available. This review will determine if a change in status is warranted, including the need to make prompt use of emergency listing procedures. For information on listing actions taken over the past 12 months, see the discussion of "Progress on Revising the Lists," in the current CNOR which can be viewed on our Internet website (http://endangered.fws.gov/).

___ Listing priority change

Former LP: ___

New LP: ___

Date when the species first became a Candidate (as currently defined): 10/25/99

___ Candidate removal: Former LP:

___ A – Taxon is more abundant or widespread than previously believed or not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

___U – Taxon not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status due, in part or totally, to conservation efforts that remove or reduce the threats to the species.

___ F – Range is no longer a U.S. territory.

___ I – Insufficient information exists on biological vulnerability and threats to support listing.

___ M – Taxon mistakenly included in past notice of review.

___ N – Taxon does not meet the Act's definition of "species."

___ X – Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Flowering plants, Asteraceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE:
Alabama, Florida, Georgia, North Carolina, South Carolina

CURRENT STATES/ COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE:
Alabama, Georgia, North Carolina, South Carolina

LAND OWNERSHIP
Six percent of the surviving sites are owned by the U.S. Forest Service (Uwharrie National Forest), one percent is owned by the U.S. Army Corps of Engineers, and the remaining ninety-three percent are on private lands.

LEAD REGION CONTACT: Rick Gooch, 404/679-7124

LEAD FIELD OFFICE CONTACT: Asheville Field Office, North Carolina. Carolyn Wells, 828/258-3939 extension 231

BIOLOGICAL INFORMATION
Species Description
Georgia aster has large heads [5 centimeters (cm) (2 inches (in)) across], with dark purple rays up to 2 cm (0.8 in) long, and thick, lanceolate to oblanceolate, scabrous, clasping leaves. Flowering occurs from early October to mid-November. Disc flowers are white with purplish tips on the corollas, anthers purple and pollen whitish. As the flowers age, the corollas turn a darker purple, so there is a difference between colors of early and mature disk corollas. The ribbed achenes are up to 4 millimeters (0.1 in) long, with evenly distributed spreading trichomes. Various species of butterflies and bumblebees have been observed pollinating the flowers, but these have not yet been identified to species (Matthews 1993). Plants are usually colonial, with 1 (sometimes 2) stems arising from each underground part. The stems and leaves are scabrous. The habitat consists of dry oak-pine flatwoods and uplands in the piedmont of North Carolina, South Carolina,

Georgia, and Alabama. Symphyotrichum georgianum can be distinguished from the similar Symphyotrichum patens by its dark purple flowers (compared to the light lavender flowers of S. patens). Symphyotrichum grandiflorum is another similar species, but it can be distinguished by its yellow disk flowers (compared to the white disk flowers of Symphyotrichum georgianum).

Taxonomy

Alexander initially described the species as Aster georgianus based on a specimen collected by Cuthbert in 1898 from Augusta (Richmond County), Georgia (Small 1933). The distribution was listed as the coastal plain and piedmont of Georgia and South Carolina. When Cronquist (1980) prepared the treatment of the Asteraceae for the Southeastern Flora, he included A. georgianus as a variety of Aster patens. Jones (1983), in a Ph.D. dissertation on the Systematics of Aster Section Patentes (Vanderbilt University, TN), provided morphological, cytological, geographic distributional and ecological evidence that supported consideration of this taxon as a distinct species. Jones published the data documenting this taxonomic decision in 1983.

The genus Aster L. (sensu lato) contains some 250-300 species that occur in the northern Hemisphere of Eurasia and North America, with a few species occurring in South America (Nesom 1994). Recent evidence (derived from morphological and molecular characters as well as chromosome counts) supports earlier contentions that North American species are distinct from Eurasian and South American species, and that a major revision of the genus is needed (e.g., Nesom 1994; Noyes and Rieseberg, 1999; Brouillet et al. 2001; Semple et al. 2001). According to these findings, the currently accepted nomenclature for this taxon is Symphyotrichum georgianum (Alexander) Nesom.

Habitat

Georgia aster occupies a variety of dry, upland habitats. The primary controlling factor appears to be the availability of light. The species is a good competitor with other early successional species, but tends to decline when shaded by woody species. Populations can persist for some undetermined length of time in the shade, but these rarely flower (Matthews 1993), and reproduce only by rhizomatous expansion. Soils vary from sand to heavy clay, with pH ranging from 4.4 to 6.8 at the sites sampled thus far (Matthews 1993).

Historical Range/Distribution

Georgia aster is a relict species of post oak savanna/prairie communities that existed in the southeast prior to widespread fire suppression and extirpation of large native grazing animals. Most remaining populations survive adjacent to roads, utility rights-of-way and other openings where current land management mimics natural disturbance regimes. Most populations are small, and since the species' main mode of reproduction is vegetative, each isolated population probably represents just a few genotypes. Many populations are threatened by woody succession due to fire suppression, development, highway expansion/improvement, and herbicide application.

Historically, 97 populations of Georgia aster were known to exist; 34 of these have apparently been destroyed. The species appears to have been eliminated from one of the five states in which it originally occurred. In most cases the exact cause of extirpation was not documented, but herbicides, highway construction, fire suppression, and residential and industrial development have all altered the historic landscape in which Georgia aster once flourished.

Current Range/Distribution

Georgia aster has apparently been eliminated from 4 counties in Alabama, 1 county in Florida, 11 counties in Georgia, 1 county in North Carolina, and 5 counties in South Carolina; it remains in 31 counties in 4 states (NC, SC, AL, & GA).

Population Estimates/Status

THREATS

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

Most remaining populations of this species survive adjacent to roads, railroads, utility rights-of-way and other openings where land management mimics natural disturbance regimes, but where they are inherently vulnerable to accidental destruction from herbicide application, road shoulder grading, and other maintenance activities. Many populations are now threatened also by development (several are within planned residential subdivisions), highway expansion/improvement, and by woody succession due to fire suppression. Two of the remaining populations are located adjacent to active quarries, which could eliminate the plants in the process of expansion. Most of the remaining populations are small, with 60 percent of them being no larger than 10 square meters (116 square feet) in size. Georgia aster has apparently been eliminated from 4 counties in Alabama, 1 county in Florida, 11 counties in Georgia, 1 county in North Carolina, and 5 counties in South Carolina; it remains in 31 counties in 4 states (NC, SC, AL, & GA).

B. Overutilization for commercial, recreational, scientific, or educational purposes.

Possibly in part because of its rarity, this species is not known to be a significant component of the commercial trade. However, it is an exceptionally attractive aster, with a low growth habit that could make it desirable to collectors and horticulturists. In addition, one of the surviving populations occurs within a heavily-used commercial recreation area, where it is threatened by trampling.

C. Disease or predation.

Disease and predation are not known to be a problem for this species. However, very little detailed information is available on its life history and interactions with potential predators and pathogens. The cause of the demise of most of the 34 extirpated populations is undocumented, so it is possible that disease and/or predation are an extant, but undocumented, problem. Obviously, with fewer and smaller populations remaining,

disease or predation could represent a more serious threat to this species' survival now than they would have historically.

D. The inadequacy of existing regulatory mechanisms.
None of the states within the range of this species offer legislative protection for habitat. A few states protect state-listed species from taking by others, but do not protect it from the landowner. Only 5 populations of Georgia aster are known to occur on public lands (4 on National Forests; 1 on land owned by the U.S. Army Corps of Engineers), but they are currently offered no protection on these sites. Also, a primary threat to this species' continued existence is fire suppression; at least one of the states within the species' range has proposed legislation to ban prescribed burns, which could seriously hinder efforts to protect this species and ensure its long-term survival.

E. Other natural or manmade factors affecting its continued existence.
Disturbance (fire, native grazers, etc.) is a part of this species' habitat requirements. The historic sources of this disturbance have been virtually eliminated from Georgia aster's range, except where road, railroad and right-of-way maintenance are mimicking the missing natural disturbances. However, more utility companies and railroads are shifting to herbicide spraying instead of mowing for longer-lasting control of vegetation growth. Repeated mowing of Georgia aster populations during the height of the growing season can reduce population vigor, and may eventually kill plants, but is not nearly as destructive as herbicide application. Wildfires, once a part of the landscape, have virtually been eliminated, and prescribed burns are becoming harder to implement (see Section D above). Ninety-two percent of the surviving populations occur on private lands, where there is no protection of any kind. Two are on the edge of active quarries, and one is located within a heavily-visited commercial recreation facility where it is potentially threatened by trampling. Several other sites are threatened by the encroachment of invasive exotic plants, particularly kudzu (Pueraria lobata), which is choking out virtually all the native vegetation. Extended drought may be a problem for this species, with one population reportedly at least top-killed before it could produce seed; it is unknown what long-term effects drought has on this species. Little is known of Georgia aster's life history and population biology, but preliminary evidence indicates that it may be self-sterile (Matthews 1993). With 41 percent of the surviving populations having less than 50 stems, and since the plant is rhizomatous, these small populations may represent single clones that are incapable of sexual reproduction; their long-term survival may be compromised by genetic depression.

CONSERVATION MEASURES PLANNED OR IMPLEMENTED
The Service has initiated discussions with the U.S. Forest Service about managing and protecting their 4 populations, and gained their tentative commitment to conduct prescribed burns on at least 2 of these sites.

SUMMARY OF THREATS (including reasons for addition or removal from candidacy, if appropriate)

Mismanagement of roadside and utility rights-of-way where the majority of the populations occur; habitat fragmentation; fire suppression.

For species that are being removed from candidate status:
___Is the removal based in whole or in part on one or more individual conservation efforts that you determined met the standards in the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (PECE)?

RECOMMENDED CONSERVATION MEASURES
Protection and management of existing populations through landowner agreements; acquisition and management of populations already large enough to manage with prescribed fire, or those (populations) located adjacent to additional habitat which could be managed to encourage expansion (of the population) away from rights-of-way and into more stable habitat.

LISTING PRIORITY

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	**5***
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

Rationale for listing priority number:

Magnitude:
At least 34 populations have been lost. Most remaining populations of this species survive adjacent to roads, railroads, utility rights-of-way and other openings where land management mimics natural disturbance regimes, but where they are inherently vulnerable to accidental destruction from herbicide application, road shoulder grading, and other maintenance activities. Many populations are now threatened also by development (several are within planned residential subdivisions), highway

expansion/improvement, and by woody succession due to fire suppression. Two of the remaining populations are located adjacent to active quarries, which could eliminate the plants in the process of expansion. One population has been lost to competition with kudzu (Pueraria lobata).

Imminence:
The threats faced by this species are significant, however, it is not anticipated that they will eliminate the species in the immediate future.

Yes Have you promptly reviewed all of the information received regarding the species for the purpose of determining whether emergency listing is needed?

Is Emergency Listing Warranted?
No. Although the threats to this species are significant, it is not anticipated that they will eliminate the species in the immediate future.

DESCRIPTION OF MONITORING:
The Service regularly obtains information on Georgia aster populations from records maintained by state Natural Heritage Programs (as well as other field botanists knowledgeable about the species) across the species' range. Whenever possible, Service biologists verify the current status of known populations through field surveys. However, due to lack of funding, there is no formal monitoring program in place for assessing the status of this species or trends in its' populations.

COORDINATION WITH STATES
Indicate which State(s) (within the range of the species) provided information or comments on the species or latest species assessment: Alabama, North Carolina, South Carolina

Indicate which State(s) did not provide any information or comments:
Georgia, Florida

LITERATURE CITED

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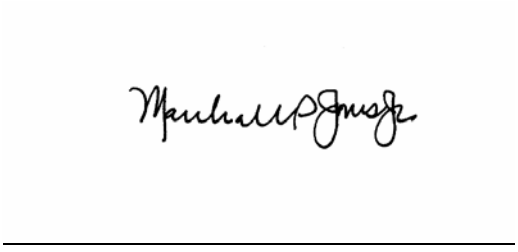
APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes, including elevations or removals from candidate status and listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all resubmitted 12-month petition findings, additions or removal of species from candidate status, and listing priority changes.

Approve: /s/ Jeffrey M. Fleming 11/16/2005
Acting Regional Director, Fish and Wildlife Service Date



Concur: _____ August 23, 2006
Acting Director, Fish and Wildlife Service Date

Do Not Concur: _____ _____
Director, Fish and Wildlife Service Date

Date of annual review: October 2005

Conducted by: Asheville, North Carolina Field Office